

CLAIMS

What is claimed is:

1. A method for chemically treating a biological tissue, wherein said biological tissue
5 comprises connective tissue protein, said method comprising contacting said biological tissue with a solution comprising a chemical fixative agent while providing an oxidizing condition.
2. A method according to Claim 1 wherein said providing an oxidizing condition comprises heating the solution in the presence of oxygen.
- 10 3. A method according to Claim 2 wherein the presence of oxygen is provided by ambient oxygen in the solution.
4. A method according to Claim 2 wherein at least some of the oxygen present is
15 provided by allowing the solution to contact atmospheric air, oxygen or an oxygen-containing gas solution.
5. A method according to Claim 2 wherein at least some of the oxygen present is provided by bubbling oxygen or an oxygen-containing gas mixture through the solution.
- 20 6. A method according to Claim 1 wherein said providing an oxidizing condition comprises combining an oxidizing agent with the solution in the presence of oxygen.
7. A method according to Claim 6 wherein the oxidizing agent is selected from the
25 group of oxidizing agents consisting of a peroxide, a compound containing peroxide, hydrogen peroxide, a periodate, a compound containing periodate, sodium periodate, a diisocyanate compound, a halogen, a compound containing halogen, n-bromosuccinimide, a permanganate, a compound containing permanganate, ozone, a compound containing ozone, chromic acid, sulfuryl chloride, a sulfoxide, a selenoxide, and combinations thereof.

8. A method according to Claim 6 wherein the presence of oxygen is provided by ambient oxygen in the solution.
- 5 9. A method according to Claim 6 wherein at least some of the oxygen present is provided by allowing the solution-oxidizing agent mixture to contact atmospheric air, oxygen or an oxygen-containing gas mixture.
- 10 10. A method according to Claim 6 wherein at least some of the oxygen present is provided by bubbling oxygen or an oxygen-containing gas mixture through the solution.
11. A method according to Claim 1 wherein said providing an oxidizing condition comprises irradiating the solution in the presence of oxygen.
- 15 12. A method according to Claim 11 wherein the solution is irradiated by a type of radiation energy selected from the group of alpha ionizing radiation, beta ionizing radiation, ultraviolet radiation, electron beam radiation, gamma rays, and combinations thereof.
- 20 13. A method according to Claim 11 wherein the presence of oxygen is provided by ambient oxygen in the solution.
- 25 14. A method according to Claim 11 wherein at least some of the oxygen present is provided by allowing the solution to contact atmospheric air, oxygen or an oxygen-containing gas mixture.
15. A method according to Claim 11 wherein at least some of the oxygen present is provided by bubbling oxygen or an oxygen-containing gas mixture through the solution.
16. A method according to Claim 1 wherein the solution is flowing.

17. A method according to Claim 16 wherein the flowing of the solution is effected by placing the solution and the tissue in a container, wherein the solution is heated and circulated through the container.

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18. The method according to Claim 1, wherein said solution comprises 0.2-2.0 % glutaraldehyde; and
said solution is maintained at 25-70 °C for a period of 0.5-60 days.

10 19. A method according to Claim 18 wherein the solution has a glutaraldehyde concentration of about 0.625%.

20. A method according to Claim 19 wherein the 0.625% glutaraldehyde solution is maintained at about 45-55 °C for a period of between about 7 and 14 days.

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21. A method according to Claim 1 wherein said chemical fixative agent is glutaraldehyde.

22. A method according to Claim 1 wherein said chemical fixative agent is Denacol.

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